



# The impact of defence activities on offshore renewable energy developments: constraints and recommendations for improving coexistence

## Background

On 1 October 2019, the third phase of the Consultation Forum for Sustainable Energy in the Defence and Security Sector (CF SEDSS Phase III) was launched to assist the European Union ministries of defence (MoD) to move towards green, resilient, and efficient energy models. One of the Forum's working groups, WG-2, focuses particularly on how to enhance the use of renewable energy sources (RES) in the defence sector and reduce carbon footprint and energy dependence on fossil fuels.

## Problem Analysis

The EU and its Member States have common and individual goals in the context of energy policy: to have access to **reliable** and **affordable** energy and to address the challenges of **climate change** and the **increasing energy demand**. To achieve all this, they need, inter alia, to remove the risks and barriers that hinder offshore renewable developments and to increase the speed of renewable power generation. Concerning the defence, significant issues constrain the release of maritime areas reserved or used for present and future military activities and purposes for the deployment of offshore renewable energy installations and exploitation.

Considering the EU's ambitions for climate neutrality by 2050, the defence sector needs to adapt and evolve to support

energy autonomy and climate resilience. To address these challenges, the WG-2 on RES has developed a research study with the main findings presented in this information sheet.

## Objectives

This study's objectives are to:

- Contextualise the interfaces between deployment of offshore renewables and defence;
- Build awareness and knowledge on the matter;
- Identify risks and barriers constraining offshore renewable developments in maritime defence areas;
- Identify key stakeholders with the purpose of beginning constructive interaction;
- Provide recommendations, including alternative options to foster the co-existence between offshore renewable energy projects and defence activities and systems.

## Methodology

Through a structured review and fact-finding using open sources, workshops and questionnaires to designated stakeholders, the study seeks to identify risks and barriers which are hindering the desired development and co-existence. Based on the analysis and the identified barriers and risks, the study proposes a future workstream which the European Defence Agency (EDA) may develop and execute in its continued work.

## Solution Implementation

The study has identified relevant legislation that consolidates the foundation for the national authorities – such legislation would be relevant for all coastal EU Member States to use as the basis to address the key barriers. Furthermore, gathering information, and creating knowledge base and awareness are considered relevant future workstreams. This CF SEDSS research study has also explored several risks and barriers through the structured review of public available report, questionnaires, and workshops.

The study also indicates that the establishment of appropriate frameworks is vital for enabling the civilian and defence communities, including the defence sector, to accelerate the development of offshore renewables. The study provides examples of how MoDs and armed forces can collaborate better with the industry and developers.

## Impact and Opportunities

The largest barrier to constructive/sustainable co-existence between offshore renewable energy and defence is the **fundamental lack of evidence-based knowledge on the impact of offshore renewable energy on defence systems** (sensors, radars, communications, weapons, etc). Understanding the impact is not expected to be sufficient to secure co-existence, as some significant impacts are expected. Further evidence-based knowledge is therefore needed on solutions to mitigate the impact as well as provide credible protection of the renewable energy assets and transmission system from hybrid and armed threats.

The knowledge could be built by individual EU Member States, developers and/or industry, but also as an international/regional European initiative with the opportunity to reduce cost and facilitate cross-border/regional knowledge sharing in the interest of accelerating the implementation of European and national energy plans. The EDA could front such an

initiative to the benefit of cost reduction, utilisation of limited resources and creating cross border/regional confidence related to specific offshore renewable developments, which are also often related to cross-border impacts and interests.

## Challenges and Risks

Developing offshore renewable energy in defence maritime areas potentially has a negative impact on:

- Permanent installed surveillance and communication systems;
- Platform-based sensors and communications systems;
- Weapon systems;
- Training and exercises including live firing;
- Operational ability of the armed forces.

The study also identifies an increased demand for protecting the offshore energy infrastructure and the massive challenge the EU is facing in terms of required installation rate to achieve the desired goal by 2050. Therefore, it is essential to establish an overview and alignment of the first focus areas to secure support from Member States within the domains of safety, security, defence, and power projection.

## Way Ahead

To move the project forward, the EDA should continue its current work, including facilitating knowledge sharing through the CF SEDSS. Particularly, the EDA could work towards securing the evidence-based knowledge to become available to guide European policy making and national authorities, defence, and developers with timely implementation of European and national energy plans. Potentially, the EDA could also seek to develop strategies, including executing relevant system trials or simulations to address barriers and risks and foster co-existence. These workstreams would enable the MoDs to enhance defence energy resilience while contributing to the EU's efforts of achieving climate-neutrality by 2050 and transit away from fossil fuels.